REMARKS

In response to the Office Action dated April 28, 2009, Applicant respectfully requests reconsideration. Claims 1-25 and 27-30 were previously pending in this application. Claims 1, 2, 11, 12, 15, 19, 21, 22, and 29 are amended herein. Claims 13, 24, and 25 are canceled. No claims have been added. Accordingly, claims 1-12, 14-23, and 27-30 are pending for examination, with claims 1, 11, and 21 being independent claims. No new matter has been added.

I. Claim Rejections under 35 U.S.C. §103

Claims 1, 2, 8, 10-12, 18, and 20 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent No. 6,904,466 ("Ishiyama") in view of U.S. Patent No. 7,116,654 ("Kim"). Claims 3,6,7,13,16,17,21-23,27, and 30 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Ishiyama in view of Kim and in further view of U.S. Patent No. 6,452,920 ("Comstock"). Other dependent claims are rejected in view of Ishiyama and Kim in view of Comstock and other references. Applicant respectfully disagrees.

A. Claims 1-10

Independent claim 1 is directed to a method for facilitating maintaining connectivity between a mobile node and a correspondent node. The method of claim 1 may be used when the mobile node changes a first address to a second address, the second address being different than the first address. The method comprises performing, by the mobile node, the steps of creating a connection to the correspondent node and communicating from the mobile node to the correspondent node over the connection, while the mobile node is at the first address, and registering the second address, for the mobile node, with an authoritative name server without using a home agent. In the method, the registering step comprises specifying the second address for the mobile node, and specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers. The method further comprises receiving, at the mobile node while at the second address, a communication from the correspondent node that indicates that a destination of the communication is the second address, and editing the

communication such that the destination is the first address. Following the editing, the communication is made available to a client program executing on the mobile node.

Applicant's Specification teaches various ways in which a process such as that recited in claim 1 may be implemented and various environments in which it may be used. In one example, the Specification describes that applications or security techniques like VPN tunnels and IPsec may be quickly reset following an address change. Such a reset is achieved by an IP layer on the mobile node that manipulates addresses for packets before making them available to applications. Similarly, an IP layer on a VPN server manipulates address for packets before making them available to tunnel and security processes (Specification, page 21, lines 29-31; page 24, lines 6-11 and 19-23). As a result, the tunneling and security processes, along with the applications, are unaware of the change in address of the mobile node, and can communicate following the change more quickly than otherwise (Page 24, lines 10-11 and 20-21). It should be appreciated that the method of claim 1 may be implemented and used in other ways, though, as this is only an illustrative example. Applicants do not intend claim 1 to be limited by this example.

No combination of Ishiyama and Kim teaches or suggests all limitations of claim 1. For example, neither reference discloses—and thus no combination of them can disclose—a method comprising steps of "*receiving, at the mobile node while at the second address*, a communication from the correspondent node that indicates that a destination of the communication is the second address," "*editing the communication* such that the destination is the first address," and "following the editing, making the communication available to a client program executing on the mobile node."

Ishiyama teaches techniques for enabling "easy change of a connected location of a mobile computer ... when the mobile computer leaves its home network" (Ishiyama, Abstract). Each mobile node, using Ishiyama's techniques, has a home address and, when outside a home network, a care-of address (Ishiyama, col. 7, lines 61-67). When a mobile computer obtains a new address (a new "care-of address" (CoA)), using Ishiyama's techniques the new address is passed to a correspondent node and/or to a DNS server (Col. 6, lines 13-39). A correspondent node seeking to communicate with the mobile node would assemble a data packet using the

home address and encapsulate that packet in an outer packet having the mobile node's current address (Col. 6, lines 4-12). The outer packet is then transmitted with the care-of address as the destination address, and received by IPsec components on the mobile node (Col. 6, lines 48-57). The IPsec components remove the inner packet with the original, home address and make it available to applications on the mobile node (Col. 12, lines 37-41).

Kim teaches techniques for routing packets in a mobile IP system using home agents (Kim, Abstract). Using the home agent, all communications bound for a mobile host are transmitted to the home agent and then tunneled to the mobile host (Col. 5, lines 52-56). During the tunneling process, a packet addressed to the home address of the mobile host is encapsulated in another packet with the care-of address for the mobile host (Col. 5, lines 52-56). When the outer packet is received at a foreign network to which the mobile host is attached, the packet is de-tunneled by the "the foreign network" and transmitted to the mobile host (Col. 5, lines 57-58).

Thus, while both references teach that it may be useful for a change of address to be "transparent to the application layers" of the hosts (Kim, col. 6, lines 58-59), both references tech techniques for assembling a packet with a home address and encapsulating that packet in an outer packet that uses a care-of address. Using these encapsulation techniques, a portion of a received packet is removed upon receipt (i.e., the encapsulation header), but no portion is edited. Neither, then, teaches a method including steps of receiving a communication at a mobile node while at a second address, where the communication indicates that a destination is the second address, and editing the communication such that the destination is the first address, as is recited by claim 1.

Therefore, for at least these reasons, claim 1 patentably distinguishes any combination of Ishiyama and Kim and is allowable. Claims 2-10 depend from claim 1 and are allowable for at least the same reasons. Withdrawal of these rejections is respectfully requested.

B. Claims 11-12 and 14-20

Independent claim 11 is directed to a computer-readable medium including computer-executable instructions for facilitating maintaining connectivity between a mobile node and a correspondent node after the mobile node changes addresses a first address to a second address

and the correspondent node changes from a third address to a fourth address. For the instructions, the second address is different than the first address and the second address is different than the fourth address. The computer-executable instructions facilitate performing, by the mobile node, the steps of creating a connection to the correspondent node and communicating from the mobile node to the correspondent node over the connection, while the mobile node is at the first address and the correspondent node is at the third address, and detecting, while the communication session is open, that the second address has been assigned to the mobile node. The instructions further facilitate registering the second address, for the mobile node, with an authoritative name server without using a home agent. The registering step comprises specifying the second address for the mobile node and specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers. The instructions further facilitate receiving from the authoritative name server an indication that the correspondent node is at the fourth address and communicating from the mobile node to the correspondent node over the connection, while the mobile node is at the second address and the correspondent node is at the fourth address.

Applicant's Specification teaches various ways in which a process such as that encoded in the medium recited in claim 11 may be implemented and various environments in which it may be used. One example described in the Specification describes that a process for maintaining communication may be more difficult when "both nodes in a peer-to-peer connection are mobile nodes ... and the mobile nodes leave their home network ... at substantially the same time" (Col. 15, lines 21-25). One solution to the problem, which may be used in some processes encoded on the medium of claim 11, is for a first mobile node to query an authoritative name server for an address for the second mobile node, which may be the same authoritative name server with which the first mobile node was registering its own address changes (Page 20, lines 3-28). It should be appreciated that the medium and the instructions of claim 11 may be implemented and used in other ways, though, as this is only an illustrative example. Applicants do not intend claim 11 to be limited by this example.

No combination of Ishiyama and Kim teaches or suggests all limitations of claim 11. For example, neither reference discloses—and thus no combination can disclose—"communicating

... while the mobile node is at the first address and the correspondent node is at the third address," "receiving ... an indication that the correspondent node is at the fourth address" and "communicating ... while the mobile node is at the second address and the correspondent node is at the fourth address."

As described above, Ishiyama and Kim teach techniques for maintaining communication between a mobile computer and a correspondent when the mobile computer moves (Ishiyama, Abstract; Kim, Abstract). Neither Ishiyama nor Kim teaches or suggests that both a mobile computer *and* a correspondent may move. In fact, Ishiyama discloses that in its techniques, the correspondent is "assumed to be a fixed node" (Ishiyama, col. 7, lines 38-39). Kim says nothing about the correspondent node moving.

Therefore, as neither reference teaches or suggests techniques for maintaining communication between a mobile node and a correspondent node when *both* move to different addresses, no combination of Ishiyama and Kim can teach or suggest computer-executable instructions that facilitate performing, *by the mobile node*, the steps of "communicating ... while the mobile node is at the *first* address and the correspondent node is at the *third* address," "receiving ... an indication that the correspondent node is at the fourth address" and "communicating ... while the mobile node is at the *second* address and the correspondent node is at the *fourth* address."

Therefore, for at least these reasons, claim 11 patentably distinguishes any combination of Ishiyama and Kim and is allowable. Claims 12 and 14-20 depend from claim 11 and are allowable for at least the same reasons. Withdrawal of these rejections is respectfully requested.

C. Claims 21-23 and 27-30

Independent claim 21 is directed to a mobile node facilitating maintaining connectivity with a correspondent node after changing network addresses. The mobile node includes a communications protocol stack comprising computer-executable instructions for facilitating maintaining connectivity between the mobile node and the correspondent node after the mobile network node changes a first address to a second address (the second address being different than the first address). The computer-executable instructions facilitate performing, by the mobile

node, the steps of creating a connection to the correspondent node and communicating from the mobile node to the correspondent node over the connection, while the mobile node is at the first address, and determining, via a policy maintained by the mobile node, that the mobile node is located outside a security domain of a home network of the mobile node. The instructions further facilitate establishing a virtual private network tunnel connection through a virtual private network server, where an address of the virtual private network server is specified by the policy, and receiving, from the virtual private network server, the second address for the mobile node. The instructions also facilitate registering the second address with an authoritative name server without using a home agent, wherein the registering step comprises specifying the second address for the mobile node and specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers. The instructions also facilitate, *for each communication to be transmitted to the correspondent node, determining, prior to transmitting the communication, a current address for the correspondent node by issuing a naming query for the correspondent node.*

Applicant's Specification teaches various ways in which a mobile node such as that recited in claim 21 may be implemented and various environments in which it may be used. One example described in the Specification describes that a process for maintaining communication may be more difficult when "both nodes in a peer-to-peer connection are mobile nodes ... and the mobile nodes leave their home network ... at substantially the same time" (Col. 15, lines 21-25). One solution to the problem is for a first mobile node to query an authoritative name server for an address for the second mobile node, which may be the same authoritative name server with which the first mobile node was registering its own address changes (Page 20, lines 3-28). While the first mobile node may be able to query the authoritative name server after a first attempt to communicate with the second mobile node fails (because the second has moved), it may be more efficient simply to query the name server prior to each communication if it is known that the second mobile node is moving often (Page 20, lines 15-28). It should be appreciated that the mobile node of claim 21 may be implemented and used in other ways, though, as this is only an illustrative example. Applicants do not intend claim 21 to be limited by this example.

As should be appreciated from the foregoing discussion, neither Ishiyama nor Kim teaches techniques for maintaining communications between a mobile node and a correspondent node when both are moving (or may have moved) during a communication session. Rather, Kim says nothing about a moving correspondent node, and Ishiyama even explains that in its techniques the correspondent node is "assumed to be a fixed node" (Ishiyama, col. 7, lines 38-39). In both Ishiyama and Kim, then, when the mobile node has an open communication session to a correspondent node, the mobile node has no need to seek a new address for the correspondent node because the correspondent node is not moving. Comstock does not teach or suggest that a correspondent node may move during communication.

Claim 21, however, recites that the mobile node performs steps of "creating a connection to the correspondent node and communicating from the mobile node to the correspondent node over the connection" and "for each communication to be transmitted to the correspondent node, determining, prior to transmitting the communication, a current address for the correspondent node by issuing a naming query for the correspondent node." Because none of the references suggest that a correspondent node may move, none of them teach or suggest determining "a current address for the correspondent node" as the current address would always be the same in their techniques. As none of the references teach "determining a current address" prior to transmitting "each communication," no combination of the references can teach these acts.

Therefore, for at least these reasons, claim 21 patentably distinguishes any combination of Ishiyama, Kim, and Comstock and is allowable. Claims 22-23 and 27-30 depend from claim 21 and are allowable for at least the same reasons. Withdrawal of these rejections is respectfully requested.

CONCLUSION

In view of the above amendment, Applicant believes the pending application is in condition for allowance. A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. M1103.70179US00.

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Respectfully submitted,

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